DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 31, 2009 has been entered.

Response to Arguments

2.   Applicant's arguments, see Remarks, filed December 31, 2009, with respect to 112 have been fully considered and are persuasive. The rejection of claims 24 and 30 – 32 has been withdrawn.

3.   Applicant's arguments filed December 31, 2009 have been fully considered but they are not persuasive. Applicant argues that Crichton's tunneling technique does not describe the maintenance of the connection after it's establishment. However, Crichton teaches that the controller can establish a connection whenever the middle proxy is started (column 5, lines 4-6). Also, Crichton teaches a SHUTDOWN of the tunnel (column 7, lines 35-36). If the connection was shutdown, the second controller would be able to re-establish the connection.

Priority

4.   Applicant has request acknowledgement of applicant's claim for foreign priority. It

is noted that on the office action dated October 13, 2006 that all of applicant's

documents have been received.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

6.   Claims 1 – 17, 19 – 29, 33, 35, 37 and 39 are rejected under 35 U.S.C. 112,

second paragraph, as being indefinite for failing to particularly point out and distinctly

claim the subject matter which applicant regards as the invention. Claim element

"means for the second controller to maintain" is a means (or step) plus function

limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description

fails to clearly link or associate the disclosed structure, material, or acts to the claimed

function such that one of ordinary skill in the art would recognize what structure,

material, or acts perform the claimed function.

7.   Applicant is required to:

             (a) Amend the claim so that the claim limitation will no longer be a means

(or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

             (b) Amend the written description of the specification such that it clearly

links or associates the corresponding structure, material, or acts to the claimed

function without introducing any new matter (35 U.S.C. 132(a)); or

(c) State on the record where the corresponding structure, material, or

acts are set forth in the written description of the specification that perform the

claimed function. For more information, see 37 CFR 1.75(d) and MPEP 2181 and

608.01(0).

Claim Rejections - 35 USC § 103

8.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

9.   Claims 1 – 5, 11 – 25, and 29 – 31, 33, 34 and 37 – 40 are rejected under 35

U.S.C. 103(a) as being unpatentable over Sit, and further in view of Crichton.

10.   Referring to claim 1, Sit teaches:

a.   A first controller connected to the network on the first network side for

receiving control messages from a control station (column 3, lines 63-65).

b.   A second controller connected to the network on the second network side,

for receiving the device control messages from the first controller and controlling

the operation of at least one device (column 4, lines 3-9).

c.   Wherein the first controller is configured to send the device control

messages to the second controller (column 4, lines 28-31, column 6, lines 31-43,

Figure 4).

11.   Sit does not explicitly disclose the second controller maintaining the connection,

or leaving the connection open between the first controller and the second controller.

However, Crichton teaches that the end proxy establishes a connection (column 5, lines

4-6) and that the tunnel can be shutdown (column 7, lines 35-36). Therefore the second

controller can re-establish the connection after it has been shutdown. Crichton also

discloses after the connection is established that data flows in both directions (column

5, lines 27-29). Sit and Crichton are analogous art because they are from the same field

of endeavor, networks. At the time of the invention, it would have been obvious to one

of ordinary skill in the art, having the teachings of Sit and Crichton before him or her, to

modify the system of Sit to include the open communication of Crichton. The

suggestion/motivation for doing so would have been to establish secure tunnels through

firewalls and providing end to end privacy and integrity of the communications (column

2, lines 19-25).

12.   Referring to claim 2, Sit teaches that the second controller initiates connection by

sending a connection request to the first controller (column 3, lines 63-65).

13.   Referring to claim 3, Sit teaches that the access control means is configured to

prevent connection requests from the first controller from reaching the second controller

(column 2, lines 23-25).

14.   Referring to claim 4, Sit teaches that the connection is maintained between the

first and second controllers following receipt of the connection request from the second

controller, and to permit the first controller to send the device control messages to the

second controller (column 4, lines 27-36).

15.   Referring to claim 5, Crichton teaches that the device control messages are sent

in an encrypted form (column 6, lines 16-18).

16.   Referring to claim 11, Crichton discloses that TCP/IP is the method used for

communication in networks (column 1, lines 20-22).

17.   Referring to claim 12, Sit teaches that the control station is configured to receive information relating to an event occurring at the devices via the first (column 4, lines 48-60) and second controller (column 4, line 64-column 5, line 1).

18.   Referring to claim 13, Sit teaches that the control station generates device control messages in response to received information (column 4, lines 39-42).

19.   Referring to claim 14, Sit teaches that the control station initiates a connection to the first controller to enable it to receive information (column 3, lines 53-65).

20.   Referring to claim 15, Sit teaches that the first controller initiates a connection to the control station (column 4, lines 48-60).

21.   Referring to claim 16, Sit teaches that the first controller is triggered to initiate the connection to the control station after initiation of the connection to the first controller by the second controller (column 3, lines 44-47).

22.   Referring to claim 17, Sit teaches that the second controller controls one or more devices (column 3, lines 51-53).

23.   Referring to claim 18, Sit teaches:

        d.   Initiating (column 3, lines 63-65) and maintaining a connection between a first controller and a second controller (column 6, lines 39-41).

        e.   Sending a plurality of device control messages from the control station to the first controller and then from the first controller to the second controller, the second controller controlling operation of the at least one or more device in response to the device control messages received by the second controller (column 3, lines 63-65, column 4, lines 3-9)

24.   Sit does not explicitly disclose the second controller maintaining the connection,

or leaving the connection open between the first controller and the second controller.

However, Crichton teaches that the end proxy establishes a connection (column 5, lines

4-6) and that the tunnel can be shutdown (column 7, lines 35-36). Therefore the second

controller can re-establish the connection after it has been shutdown. Crichton also

discloses after the connection is established that data flows in both directions (column

5, lines 27-29). Sit and Crichton are analogous art because they are from the same field

of endeavor, networks. At the time of the invention, it would have been obvious to one

of ordinary skill in the art, having the teachings of Sit and Crichton before him or her, to

modify the system of Sit to include the open communication of Crichton. The

suggestion/motivation for doing so would have been to establish secure tunnels through

firewalls and providing end to end privacy and integrity of the communications (column

2, lines 19-25).

25.   Referring to claim 19, Sit teaches:

    f.   A monitor station connected to the network on the first network side for
    receiving information concerning the devices (column 4, lines 64-66).

    g.   A first controller connected to the network on the first network side for
    receiving information and sending information to the monitor station (column 5,
    lines 1-3).

    h.   A second controller for monitoring operations of the device and sending
    information to the first controller (column 4, line 63-column 5, line 1).

      i.   Wherein the first controller is configured to send information to the monitor

station (column 6, lines 31-43, column 4, lines 29-31).

26.   Sit does not explicitly disclose the monitor station maintaining the connection, or

leaving the connection open between the first controller and the monitor station.

However, Crichton teaches that the end proxy establishes a connection (column 5, lines

4-6) and that the tunnel can be shutdown (column 7, lines 35-36). Therefore the second

controller can re-establish the connection after it has been shutdown. Crichton also

discloses after the connection is established that data flows in both directions (column

5, lines 27-29). Sit and Crichton are analogous art because they are from the same field

of endeavor, networks. At the time of the invention, it would have been obvious to one

of ordinary skill in the art, having the teachings of Sit and Crichton before him or her, to

modify the system of Sit to include the open communication of Crichton. The

suggestion/motivation for doing so would have been to establish secure tunnels through

firewalls and providing end to end privacy and integrity of the communications (column

2, lines 19-25).

27.   Referring to claim 20, Sit teaches that the system is configured to maintain a

connection between the monitor station and the first controller and to permit the first

controller to send information received to the monitor station without requesting a new

connection (column 4, lines 27-36).

28.   Referring to claim 21, Sit teaches generating device control messages in

response to received information (column 4, lines 39-42).

29.   Referring to claim 22, Sit teaches that the device control messages are sent to the device via the first and second controllers (column 4, lines 7-9).

30.   Referring to claim 23, Sit teaches that the second controller is connected to the network on the second network side (Figure 2).

31.   Referring to claim 24, Crichton teaches a client monitoring the server, and a client end proxy local to the client sending messages to the server, which controls the server (column 4, lines 30-37, Figure 9).

32.   Referring to claim 25, Sit teaches that the communications path between the monitor station and the remote site comprises a wide area network (Figure 2).

33.   Referring to claim 29, Crichton discloses that TCP/IP is the method used for communication in networks (column 1, lines 20-22).

34.   Referring to claim 30, Sit teaches:

        j.   Initiating and maintaining a connection between a first controller connected to the network on the first network side and a monitor station connected to the network on the first network side (column 4, lines 29-31, Figure 2).

        k.   Sending event information relating to operation of the device from a second controller monitoring operations of the at least one device, to the first controller and then to the monitor station (column 4, line 63-column 5, line 3).

35.   Sit does not explicitly disclose the monitor station maintaining the connection, or leaving the connection open between the first controller and the monitor station. However, Crichton teaches that the end proxy establishes a connection (column 5, lines

4-6) and that the tunnel can be shutdown (column 7, lines 35-36). Therefore the second

controller can re-establish the connection after it has been shutdown. Crichton also

discloses after the connection is established that data flows in both directions (column

5, lines 27-29). Sit and Crichton are analogous art because they are from the same field

of endeavor, networks. At the time of the invention, it would have been obvious to one

of ordinary skill in the art, having the teachings of Sit and Crichton before him or her, to

modify the system of Sit to include the open communication of Crichton. The

suggestion/motivation for doing so would have been to establish secure tunnels through

firewalls and providing end to end privacy and integrity of the communications (column

2, lines 19-25).

36.   Referring to claim 31, Sit teaches generating device control messages in

response to received information (column 4, lines 39-42).

37.   Referring to claim 33, Sit teaches the second controller and the device are

located on one side of a firewall and the first controller is located on the other side of the

firewall (Figure 5).

38.   Referring to claim 34, Sit teaches that the second controller and the at least one

device are located on one side of a firewall and the first controller and the monitor

station are located on the other side of a firewall (Figure 5).

39.   Referring to claims 37 and 38, Crichton teaches maintaining the connection

between the first controller and the second controller by reestablishing the connection if

lost without requiring the first controller to request a connection to the second controller

(Figure 5, column 5, lines 1-8).

40.   Referring to claims 39 and 40, Crichton teaches maintaining the connection between the first controller and the monitor station by reestablishing the connection if lost without requiring the first controller to request a connection to the monitor station (Figure 5, column 5, lines 1-8).

41.   Claims 6 – 9 are rejected under 35 USC 103 (a) as being obvious over Sit in view of Crichton in view of Rudolf Wegener's US Publication 2003/0216891 A1.

42.   Sit in view of Crichton discloses all the limitations of the parent claim. Sit in view of Crichton does not explicitly disclose the control station being remote to both the first and second controller. However, Wegener discloses having the control station remote from both a first and second station (Figure 3). Sit in view of Crichton and Wegener are analogous art because they are from the same field of endeavor, remotely controlling a device. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Sit in view of Crichton and Wegener before him or her, to modify the system of Sit in view of Crichton to include the remote control station of Wegener. The motivation for doing so would have been to reduce the amount of unacceptable delays (page 1, paragraph 3).

43.   Referring to claim 7, Sit teaches a system wherein a communications path between the control station and the remote site comprises a wide area network (Figure 2, element 150).

44.   Referring to claim 8, Sit teaches further access control means between the wide area network and the first controller (Page 2, lines 66-67).

45.   Referring to claim 9, Sit teaches that the further access control means comprises
a firewall (column 2, line 66).

46.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sit in
view of Crichton in view of Wegener, and further in view of Shaw.

47.   Sit in view of Crichton in view of Wegener discloses all the limitations of the
parent claim. Sit in view of Wegener does not explicitly disclose providing inner and
outer firewall to the first controller with a demilitarized zone. However, Shaw discloses
the use of having a controller (see Figure 1, element 102, and paragraph 0029) in a
"demilitarized zone" between a first firewall (see Figure 1, element 100) (see Figure 1,
element 102) and a second firewall (see Figure 1, element 100) which separates it from
the wide area network (see Figure 1, element 104).

48.   Hence, it would have been obvious to one of ordinary skill in the art to have
included the technology taught by Shaw into the invention taught by Sit in view of
Crichton in view of Wegener above, to prevent unauthorized access to the first
controller from the wide area network. In doing so would help ensure that the client
complies with the security requirements, before allowing the client access to the
network inside the inner firewall. Hence, to do so, would add an additional layer of
security to the system (see paragraph 0026 of the Shaw reference).

49.   Claims 26 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over
Sit in view of Crichton, and further in view of Shaw.

50.   Referring to claim 26, Sit discloses all the limitations of the parent claim. Sit in

view of Crichton does not explicitly disclose providing inner and outer firewall to the first

controller with a demilitarized zone. However, Shaw discloses the use of having a

controller (see Figure 1, element 102, and paragraph 0029) in a "demilitarized zone"

between a first firewall (see Figure 1, element 100) (see Figure 1, element 102) and a

second firewall (see Figure 1, element 100) which separates it from the network (see

Figure 1, element 104).

51.   Hence, it would have been obvious to one of ordinary skill in the art to have

included the technology taught by Shaw into the invention taught by Sit above, to

prevent unauthorized access to the first controller from the network. In doing so would

help ensure that the client complies with the security requirements, before allowing the

client access to the network inside the inner firewall. Hence, to do so, would add an

additional layer of security to the system (see paragraph 0026 of the Shaw reference).

52.   Referring to claim 27, Sit teaches a third firewall between the second controller

and the wide area network (column 2, lines 48-52).

53.   Referring to claim 28, Sit teaches that the third firewall is configured to not permit

inbound connection requests to the second controller (column 1, lines 65-67).

54.   Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sit in

view of Crichton and further in view of Johnson.

55.   Sit discloses exchanging device control messages between said first and second

controller (column 4, lines 39-42). Sit does not explicitly disclose the first controller

being behind the firewall and the second controller being outside the firewall, or using

the first controller to control the devices using messages from the second controller.

56.   However, Crichton discloses:

      l.   That the first and second network sides are separated by a firewall and

      the first controller is located behind said firewall and the second controller is

      located outside the firewall (Figure 4).

      m.   Using said first controller to control said devices (column 5, lines 39-40)

      using respectively corresponding signaling protocols in response to control

      messages from said second controller (column 5, lines 54-59).

57.   Sit and Crichton are analogous art because they are from the same field of

endeavor, communicating across a firewall. At the time of the invention, it would have

been obvious to one of ordinary skill in the art, having the teachings of Sit and Crichton

before him or her, to modify the system of Sit to include the proxies of Crichton. The

suggestion/motivation for doing so would have been to establish a secure

communication link across multiple firewalls (column 2, lines 52-55).

58.   Sit in view of Crichton does not explicitly disclose holding open a port, and using

that port for communication. However, Johnson discloses holding a port open for data

requests (page 4, paragraph 31). Sit in view of Crichton and Johnson are analogous art

because they are from the same field of endeavor, remote communication. At the time

of the invention, it would have been obvious to one of ordinary skill in the art, having the

teachings of Sit in view of Crichton and Johnson before him or her, to modify the

communication system of Sit in view of Crichton to include holding the port open of

Johnson. The suggestion/motivation for doing so would have been security is easily

maintained (page 4, paragraph 31).

59.   Claims 35 and 36 are is rejected under 35 U.S.C. 103(a) as being unpatentable

over Sit in view of Crichton, and further in view of Shaw.

60.   Sit in view of Crichton discloses all the limitations of the parent claim. Sit in view

of Crichton does not explicitly disclose the monitor station is located on one side of the

firewall and the first controller is on the other side. However, Shaw discloses the use of

having a controller (see Figure 1, element 102, and paragraph 0029) in a "demilitarized

zone" between a first firewall (see Figure 1, element 100) (see Figure 1, element 102)

and a second firewall (see Figure 1, element 100) which separates it from the wide

area network (see Figure 1, element 104).

61.   Hence, it would have been obvious to one of ordinary skill in the art to have

included the technology taught by Shaw into the invention taught by Sit in view of

Crichton above, to prevent unauthorized access to the first controller from the wide area

network. In doing so would help ensure that the client complies with the security

requirements, before allowing the client access to the network inside the inner firewall.

Hence, to do so, would add an additional layer of security to the system (see paragraph

0026 of the Shaw reference).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CORDELIA KANE whose telephone number is (571)272-7771. The examiner can normally be reached on Monday - Thursday 8:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. K./
Examiner, Art Unit 2432

/Benjamin E Lanier/
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